

Exhibit J

Webster's
NewWorld

DICTIONARY OF COMPUTER TERMS

COMPLETELY REVISED
& UPDATED

4500 COMPUTER TERMS EXPLAINED
COVERS THE MOST CURRENT
COMPUTER TERMINOLOGY WITH CLEAR
JARGON-FREE DEFINITIONS

THIRD EDITION

Third Edition

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INTRODUCTION

Today the use of computers, especially micro-computers, is one of the fastest-growing and most important developments of our time. These machines are being used by more and more people to do everything from solving complex business problems to composing music. A major problem with any revolutionary development is the nomenclature. In a fast-moving field such as computer technology, many new terms and concepts develop with the technology. It is important that these terms and concepts be defined and constantly updated and refined.

Webster's New World Dictionary of Computer Terms, Third Edition is a collection of more than 4,500 computer terms that focus on those topics of interest to computer users. These terms have been selected as those most likely to confront the beginning computer user. The book is written in terms a layperson can understand. Wherever possible, technical terms have been avoided so that the definitions might be easily read and understood. Where a proper understanding of a term depends upon the comprehension of another term, the reader is directed to it by a cross reference.

All terms are entered in a strict alphabetical listing, so that spaces and dashes are to be ignored in looking up a particular word or phrase. A term that begins with a number is entered in the position it would occupy if the number had been spelled out; for example, RS-232C appears in the position for "RS-two thirty-two C."

nonswitched line

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nonswitched line A communications link that is permanently installed between two points.

nonvolatile storage A storage medium that retains its data in the absence of power, such as ROM.

no-op An abbreviation of the term "no-operation," as in NO-OPERATION INSTRUCTION.

no-operation instruction A computer instruction whose only effect is to advance the instruction counter. It accomplishes nothing more than to advance itself to the next instruction in normal sequence.

NOP An acronym for NO OPERATION. See NO-OPERATION INSTRUCTION.

NOR The Boolean operator that gives a truth table value of true only when both of the variables connected by the logical operator are false.

normalize To adjust the exponent and fraction of a floating-point quantity so the fraction is within a prescribed range. Loosely defined, to SCALE.

Norton Utilities™ A collection of small programs designed to make computing easier. These programs fall into four categories: data recovery, disk management, data security, and miscellaneous functions. Useful for floppy and hard disk users. Developed by Peter Norton Computing, Inc.

NOT A logic operator having the property that if P is a statement, then the NOT of P is true if P is false and false if P is true.

notation See POSITIONAL NOTATION.

notebook computer A briefcase-sized computer that uses a flat panel liquid crystal display. It is about the size of a large book.

NOT-gate A circuit equivalent to the logical operation of negation.

NRZ An abbreviation for NONRETURN TO ZERO, one of several methods for coding digital information on magnetic tape.

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numeral system

NS An abbreviation for NANOSECOND, one billionth of a second.

NTSC An abbreviation for NATIONAL TELEVISION SYSTEM COMMITTEE, a color television standard.

nucleus That portion of the control program that must always be present in internal storage.

null Pertaining to a negligible value or a lack of information, as contrasted with a zero or a blank that conveys information, such as numerical value and a space between words. Empty.

null cycle The time required to cycle through an entire program without introducing new data.

null string String with no characters. See EMPTY STRING.

number (1) A symbol or symbols representing a value in a specific numeral system. (2) Loosely defined, a NUMERAL.

number base See RADIX.

number crunching Pertaining to a program or computer that is designed to perform large amounts of computation and other numerical manipulations of data. See SUPERCOMPUTER.

number representation The representation of numbers by agreed sets of symbols according to agreed rules.

number system An agreed set of symbols and rules for number representation. Loosely, a NUMERAL SYSTEM.

numeral A conventional symbol representing a number; for example, 5, 101, and V are different numerals that represent the same number in different number systems.

numeralization Representation of alphabetic data through the use of digits.

numeral system A method of representing numbers. In computing, several numeral systems, in addition to the common decimal system, are of particular interest. These are the binary, hexadecimal, and octal systems. In each system, the value of a numeral is the value of the digits multiplied by the numeral system radix, raised to a power indicated by the position of the digits in the numeral.